Amendments to the Claims

The following Listing of the Claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-24 (Cancelled).

Claim 25 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group, which is an acyl phosphine oxide or aroyl phosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

and the photoactive group is linked to the ethylene groups of units C by a linking group comprising a group having the structure -O-C(O)-NH-, and wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 26 (New): Macromolecular hydrophilic photocrosslinker according to claim 25 wherein the linking group has the structure of -O-C(O)-NH-Ph-, wherein Ph denotes an optionally substituted phenylene group.

Claim 27 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group, which is an acyl phosphine oxide or aroyl phosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

and the ethylene units A, B and C comprise substituents in accordance with A= $-CH_2-C(R^1R^2)-$, B= $-CH_2-C(R^1R^3)-$, C= $-CH_2-C(R^1R^4)-$,

wherein R^1 is hydrogen or methyl;

R^2 is $-CON(Me)_2$, $-CO_2CH_2CH_2OH$, $-OCOCH_3$, $-OCOCH_2CH_2Ph$, -OH or a lactam group;

R^3 is $-CON(Me)_2$, $-CO_2CH_2CH_2OH$, $-OCOCH_3$, $-OCOCH_2CH_2Ph$, -OH or a lactam group when B is $-CH_2-C(R^1R^3)-$ with the proviso that R^2 and R^3 are not the same unless R^2 and R^3 are -OH; and

R^4 is $-R^5P(O)R^6OC(O)R^7$, wherein R^5, R^6 and R^7 each individually comprises a phenyl, methylphenyl, dimethylphenyl, trimethylphenyl, methoxyphenyl, dimethoxyphenyl, trimethoxyphenyl, methylolphenyl, dimethylolphenyl, trimethylolphenyl or styryl radical, and wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 28 (New): Macromolecular hydrophilic photocrosslinker according to claim 27, wherein R^2 and R^3 are selected so as to form a water-soluble molecule.

Claim 29 (New): Macromolecular hydrophilic photocrosslinker according to claim 27, wherein said lactam groups together with units A or B constitute N-vinylpyrrolidone units.

Claim 30 (New): Macromolecular hydrophilic photocrosslinker according to claim 27, wherein at least one of R^2 and R^3 is hydroxyl.

Claim 31 (New): Macromolecular hydrophilic photocrosslinker according to claim 27, wherein A is N- vinylpyrrolidone, B is vinyl alcohol.

Claim 32 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group, which is an acyl phosphine oxide or aroyl phosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

and the ethylene units A, B and C comprise substituents in accordance with

A= $-CH_2-C(R^1R^2)-$, B= $-CH_2-C(R^1R^3)-$, C= $-CH_2-C(R^1R^4)-$,

wherein R^1 is hydrogen or methyl;

R^2 is $-CON(Me)_2$, $-CO_2CH_2CH_2OH$, $-OCOCH_3$, $-OCOCH_2CH_2Ph$, -OH or a lactam group;

R^3 is $-CON(Me)_2$, $-CO_2CH_2CH_2OH$, $-OCOCH_3$, $-OCOCH_2CH_2Ph$, -OH or a lactam group when B is $-CH_2-C(R^1R^3)-$ with the proviso that R^2 and R^3 are not the same unless R^2 and R^3 are -OH; and

R^4 is $-R^8C(O)P(O)R^9\ R^{10}$, wherein R^8 is -O-C(O)-NH-R^{11} and R^9, R^{10} and R^{11} each individually comprises a phenyl, methylphenyl, dimethylphenyl, trimethylphenyl, methoxyphenyl, dimethoxyphenyl, trimethoxyphenyl, methylolphenyl, dimethylolphenyl, trimethylolphenyl or styryl radical,

and wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 33 (New): Macromolecular hydrophilic photocrosslinker according to claim 32, wherein A and B are a copolymer comprising N-vinylpyrrolidone and vinyl alcohol and C is 4-isocyanatobenzoyldiphenyl phosphine oxide.

Claim 34 (New): Macromolecular hydrophilic photocrosslinker according to claim 32, wherein A and B are a copolymer comprising N-vinylpyrrolidone and vinyl alcohol and C is 4-isocyanato-3,5-dimethylbenzoyl diphenyl phosphine oxide.

Claim 35 (New): Macromolecular hydrophilic photocrosslinker according to claim 32, wherein R^2 and R^3 are selected so as to form a water-soluble molecule.

Claim 36 (New): Macromolecular hydrophilic photocrosslinker according to claim 25, wherein the photocrosslinker is provided with functional groups for crosslinking.

Claim 37 (New): Macromolecular hydrophilic photocrosslinker according to claim 36, wherein the photocrosslinker is provided with functional groups that are selected from the group consisting of vinylic, acrylic and methacrylic groups.

Claim 38 (New): Macromolecular hydrophilic photocrosslinker according to claim 27, wherein the photocrosslinker is provided with functional groups for crosslinking.

Claim 39 (New): Macromolecular hydrophilic photocrosslinker according to claim 38, wherein the photocrosslinker is provided with functional groups that are selected from the group consisting of vinylic, acrylic and methacrylic groups.

Claim 40 (New): Macromolecular hydrophilic photocrosslinker according to claim 32, wherein the photocrosslinker is provided with functional groups for crosslinking.

Claim 41 (New): Macromolecular hydrophilic photocrosslinker according to claim 40, wherein the photocrosslinker is provided with functional groups that are selected from the group consisting of vinylic, acrylic and methacrylic groups.

Claim 42 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group, which is an acyl phosphine oxide or aroyl phosphine oxide, A is N-vinylpyrrolidone and B is vinyl alcohol;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole%;

and wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 43 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed, A is N-vinylpyrrolidone, B is vinyl acetate, which is hydrolyzable to form vinyl alcohol, and C is 4-vinylbenzoyldiphenylphosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole%;

wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 44 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed, A is N-vinylpyrrolidone, B is 2-hydroxyethyl methacrylate and C is 4-vinylbenzoyl diphenylphosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole%;

wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 45 (New): Macromolecular hydrophilic photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$

capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and wherein A or B is N, N-dimethylacryl amide and C is selected from the group consisting of 4-vinylbenzoyl diphenyl phosphine oxide, 4-vinyl-2,6-dimethylbenzoyl diphenyl phosphine oxide and 1,3,5-trimethylbenzoyl styrylphenyl phosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole%;

wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 46 (New): An aqueous composition comprising the macromolecular hydrophilic photocrosslinker according to claim 25 and (i) a hydrophilic polymer carrying functional groups for crosslinking, wherein the functional groups comprise vinylic, acrylic or methacrylic groups or a combination thereof, or (ii) at least one copolymerizable vinylic, acrylic or methacrylic monomer.

Claim 47 (New): An aqueous composition, comprising 2-hydroxyethyl methacrylate and the macromolecular hydrophilic photocrosslinker according to claim 43.

Claim 48 (New): An aqueous composition, comprising 2-hydroxyethyl methacrylate and the macromolecular hydrophilic photocrosslinker according to claim 45.

Claim 49 (New): An aqueous composition, comprising 2-hydroxyethyl methacrylate and the macromolecular hydrophilic photocrosslinker according to claim 32.

Claim 50 (New): A composition comprising 2-hydroxyethyl methacrylate and the photocrosslinker according to claim 43.

Claim 51 (New): A composition comprising 2-hydroxyethyl methacrylate and the photocrosslinker according to claim 44.

Claim 52 (New): A composition comprising 2-hydroxyethyl methacrylate and the photocrosslinker according to claim 45.

Claim 53 (New): A method of preparing a photocrosslinker, comprising reacting a hydrophilic macromolecule of the formula

$(A)_n(B)_m(C)_p$ wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and at least the unit C carries a hydroxyl group;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m 50-98 mole % and p = 0.5-50 mole %; with an isocyanate-substituted photoactive agent having the structure $-C(O)=N-R^{11}-C(O)P(O)R^{9}R^{10}$, wherein R^{9}, R^{10} and R^{11} each individually comprises a phenyl, methylphenyl, dimethylphenyl,

trimethylphenyl, methoxyphenyl, dimethoxyphenyl, trimethoxyphenyl, methylolphenyl, dimethylolphenyl, trimethylolphenyl or styryl radical.

Claim 54 (New): A method of forming a macromolecular crosslinked network from an aqueous composition comprising a photocrosslinker according to claim 25, comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form a solid article.

Claim 55 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 54, wherein said composition further comprises at least one copolymerizable vinylic, acrylic or methacrylic monomer.

Claim 56 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 54, wherein said composition further comprises a hydrophilic polymer provided with functional vinylic, acrylic or methacrylic groups.

Claim 57 (New): A method according to claim 56, wherein said hydrophilic polymer forms discrete crosslinkable units in a form of water-soluble particles.

Claim 58 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 48, comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form a solid article.

Claim 59 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 49, comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form a solid article.

Claim 60 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 50, comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form a solid article.

Claim 61 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 51, comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form a solid article.

Claim 62 (New): A method of forming a macromolecular crosslinked network from an aqueous composition according to claim 52, comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form a solid article.

Claim 63 (New): A method according to claim 58, wherein an ophthalmic lens is produced from said composition.

Claim 64 (New): A method according to claim 59, wherein an ophthalmic lens is produced from said composition.

Claim 65 (New): A method according to claim 60, wherein an ophthalmic lens is produced from said composition.

Claim 66 (New): A method according to claim 61, wherein an ophthalmic lens is produced from said composition.

Claim 67 (New): A method according to claim 62, wherein an ophthalmic lens is produced from said composition.

Claim 68 (New): A method according to claim 63, comprising the steps of injecting the composition into a capsular bag of an eye and crosslinking the composition into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 69 (New): A method according to claim 64, comprising the steps of injecting the composition into a capsular bag of an eye and crosslinking the composition into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 70 (New): A method according to claim 65, comprising the steps of injecting the composition into a capsular bag of an eye and crosslinking the composition into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 71 (New): A method according to claim 66, comprising the steps of injecting the composition into a capsular bag of an eye and crosslinking the composition into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 72 (New): A method according to claim 67, comprising the steps of injecting the composition into a capsular bag of an eye and crosslinking the composition into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 73 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 25, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 74 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 27, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 75 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 32, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 76 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 42, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 77 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 43, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 78 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 44, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 79 (New): An ophthalmically acceptable composition comprising the photocrosslinker according to claim 45, having a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 80 (New): A method of forming a macromolecular crosslinked network from an aqueous composition comprising macromolecular hydrophilic photocrosslinker, the method comprising irradiating the composition with light of a wavelength exceeding 305 nm for a time sufficient to form an ophthalmic lens, said photocrosslinker having a general formula

$(A)_n(B)_m(C)_p$ wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group that is an acyl phosphine oxide or aroyl phosphine oxide,

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure.

Claim 81 (New): A method according to claim 80, wherein the photoactive group is linked to the ethylene groups of unit C by a linking group comprising a phenylene group, said phenylene group being optionally substituted.

Claim 82 (New): A method according to claim 80, wherein the composition is injected into the capsular bag of the eye and the composition is crosslinked into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 83 (New): An ophthalmically acceptable composition comprising macromolecular hydrophilic photocrosslinker having a general formula $(A)_n(B)_m(C)_p$ and capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group, which is an acyl phosphine oxide or aroyl phosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

and the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure, and wherein said composition has a refractive index of at least 1.39 and a suitable viscosity to be injected through a standard cannula of 15 Gauge or finer.

Claim 84 (New): An ophthalmically acceptable composition according to claim 83,

wherein the photoactive group is linked to the ethylene groups of units C by a linking group comprising a phenylene group, said phenylene group being optionally substituted.

Claim 85 (New): A method of forming an intraocular lens, comprising injecting an ophthalmically acceptable composition comprising macromolecular hydrophilic photocrosslinker into the capsular bag of the eye, said photocrosslinker having a general formula $(A)_n(B)_m(C)_p$ capable of producing, upon exposure to light, crosslinked networks, wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group, which is an acyl phosphine oxide or aroyl phosphine oxide;

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

and irradiating the composition with light of wavelength above 305 nm to generate radicals which are retained on the macromolecular photocrosslinker and react to provide a crosslinked network structure.

Claim 86 (New): A method according to claim 85, wherein the photoactive group of the photocrosslinker is linked to the ethylene groups of units C by a linking group comprising a phenylene group, said phenylene group being optionally substituted.

Claim 87 (New): A method of forming a macromolecular crosslinked network from an aqueous composition comprising macromolecular hydrophilic photocrosslinker,

comprising irradiating the composition with light of wavelength above 305 nm for a time sufficient to form a solid article, said photocrosslinker having a general formula $(A)_n(B)_m(C)_p$ wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group that is an acyl phosphine oxide or aroyl phosphine oxide,

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure, and wherein said composition further comprises at least one copolymerizable vinylic, acrylic or methacrylic monomer.

Claim 88 (New): A method according to claim 87, wherein the photoactive group of the photocrosslinker is linked to the ethylene groups of units C by a linking group comprising a phenylene group, said phenylene group being optionally substituted.

Claim 89 (New): A method of forming a macromolecular crosslinked network from an aqueous composition comprising macromolecular hydrophilic photocrosslinker, comprising irradiating the composition with light of wavelength above 305 nm for a time sufficient to form a solid article, said photocrosslinker having a general formula $(A)_n(B)_m(C)_p$ wherein

(i) A, B and C are units of substituted ethylene groups in the macromolecular structure;

(ii) A, B and C are randomly distributed and the unit C carries a photoactive group that is an acyl phosphine oxide or aroyl phosphine oxide,

(iii) n = 0-98 mole %, m = 0-98 mole %, n+m = 50-98 mole % and p = 0.5-50 mole %;

wherein the photoactive groups are adapted, upon exposure to light of wavelength above 305 nm, to generate radicals retained on the macromolecular photocrosslinker and adapted to react to provide a crosslinked network structure, and wherein said composition further comprises a hydrophilic polymer provided with functional vinylic, acrylic or methacrylic groups.

Claim 90 (New): A method according to claim 89, wherein the photoactive group of the photocrosslinker is linked to the ethylene groups of units C by a linking group comprising a phenylene group, said phenylene group being optionally substituted.

Claim 91 (New): A method according to claim 89, wherein said hydrophilic polymer forms discrete crosslinkable units in the form of water-soluble particles.

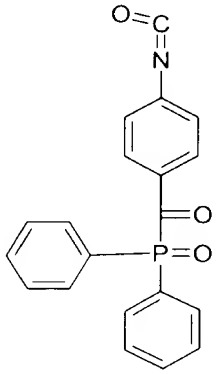
Claim 92 (New): A method according to claim 87, wherein an ophthalmic lens is produced from said composition.

Claim 93 (New): A method according to claim 89, wherein an ophthalmic lens is produced from said composition.

Claim 94 (New): A method according to claim 92, wherein the composition is injected into the capsular bag of the eye and the composition is crosslinked into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 95 (New): A method according to claim 93, wherein the composition is injected into the capsular bag of the eye and the composition is crosslinked into a final lens product by irradiation with light of a wavelength exceeding 305 nm.

Claim 96 (New): A photoactive agent having the structure of:



Claim 97 (New): A photoactive agent having the structure of: